

TABLE 3.4-1 TABLE 1 STEAM AND POWER CONVERSION SYSTEMS

Steam and Power Conversion Systems

<i>Material</i>	<i>Environment</i>	<i>Aging Effect/ Mechanism</i>	<i>Program</i>
1. Piping and fittings in main feedwater line, steam line and AFW piping (PWR only)			
<i>System No</i>	<i>3010</i>	<i>Steam Generator Blowdown System</i>	
Carbon Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
Stainless Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
<i>System No</i>	<i>3015</i>	<i>Steam Generator Chemical Addition System</i>	
Carbon Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
<i>System No</i>	<i>3020</i>	<i>Main Steam (MS)</i>	
Carbon Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
Stainless Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
<i>System No</i>	<i>3050</i>	<i>Feedwater System (FW)</i>	
Carbon Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
Stainless Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
<i>System No</i>	<i>3065</i>	<i>Auxiliary Feedwater (AFW)</i>	
Carbon Steel	Treated Water (including steam)	Cracking from Thermal Fatigue	Fatigue is a TLAA to be evaluated
2. Piping and fittings, valve bodies and bonnets, pump casings, tanks, tubes, tubesheets, channel head and shell (except main steam system)			
<i>System No</i>	<i>3010</i>	<i>Steam Generator Blowdown System</i>	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
Stainless Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program

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<i>Material</i>	<i>Environment</i>	<i>Aging Effect/ Mechanism</i>	<i>Program</i>
2. Piping and fittings, valve bodies and bonnets, pump casings, tanks, tubes, tubesheets, channel head and shell (except main steam system)			
System No	3015	Steam Generator Chemical Addition System	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
System No	3050	Feedwater System (FW)	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
Stainless Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
System No	3065	Auxiliary Feedwater (AFW)	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
Stainless Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
System No	3070	Condensate System (C)	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
Stainless Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program

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5. External surface of carbon steel components			
System No	3010	Steam Generator Blowdown System	
Carbon Steel	Indoor - Not Air Conditioned, Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
System No	3015	Steam Generator Chemical Addition System	
Carbon Steel	Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
System No	3020	Main Steam (MS)	
Carbon Steel	Indoor - Not Air Conditioned, Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
	Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
System No	3050	Feedwater System (FW)	
Carbon Steel	Indoor - Not Air Conditioned, Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
	Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
System No	3070	Condensate System (C)	
Carbon Steel	Outdoor	Loss of Material from General Corrosion	Systems Monitoring Program (Site Specific)
6. Carbon steel piping and valve bodies			
System No	3010	Steam Generator Blowdown System	
Carbon Steel	Treated Water (including steam)	Loss of Material from FAC	Flow-Accelerated Corrosion Program
System No	3020	Main Steam (MS)	
Carbon Steel	Treated Water (including steam)	Loss of Material from FAC	Flow-Accelerated Corrosion Program
System No	3050	Feedwater System (FW)	
Carbon Steel	Treated Water (including steam)	Loss of Material from FAC	Flow-Accelerated Corrosion Program
System No	3065	Auxiliary Feedwater (AFW)	

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6. Carbon steel piping and valve bodies			
Carbon Steel	Treated Water (including steam)	Loss of Material from FAC	Flow-Accelerated Corrosion Program
<i>System No</i>	<i>3070</i>	<i>Condensate System (C)</i>	
Carbon Steel	Treated Water (including steam)	Loss of Material from FAC	Flow-Accelerated Corrosion Program
7. Carbon steel piping and valve bodies in main steam system			
<i>System No</i>	<i>3020</i>	<i>Main Steam (MS)</i>	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Water Chemistry Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Water Chemistry Program
9. Heat exchangers and coolers/ condensers serviced by open-cycle cooling water			
<i>System No</i>	<i>3065</i>	<i>Auxiliary Feedwater (AFW)</i>	
Carbon Steel	Raw Water	Flow Blockage from Fouling	Open-Cycle Cooling Water System Program
	Raw Water	Loss of Material from Crevice Corrosion	Open-Cycle Cooling Water System Program
	Raw Water	Loss of Material from General Corrosion	Open-Cycle Cooling Water System Program
	Raw Water	Loss of Material from MIC	Open-Cycle Cooling Water System Program
	Raw Water	Loss of Material from Pitting Corrosion	Open-Cycle Cooling Water System Program
10. Heat exchangers and coolers/ condensers serviced by closed-cycle cooling water			
<i>System No</i>	<i>4080</i>	<i>Component/Closed Cooling Water System</i>	
Carbon Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Closed-Cycle Cooling Water System Program
	Treated Water (including steam)	Loss of Material from General Corrosion	Closed-Cycle Cooling Water System Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Closed-Cycle Cooling Water System Program
Stainless Steel	Treated Water (including steam)	Loss of Material from Crevice Corrosion	Closed-Cycle Cooling Water System Program
	Treated Water (including steam)	Loss of Material from Pitting Corrosion	Closed-Cycle Cooling Water System Program

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13. External surface of carbon steel components			
<i>System No</i>	<i>3010</i>	Steam Generator Blowdown System	
Carbon Steel	Containment Air, Borated Water Leakage	Loss of Material from Aggressive Chemical Attack	Boric Acid Corrosion Program
	Containment Air, Borated Water Leakage	Loss of Mechanical Closure Integrity from Loss of Material due to Aggressive Chemical Attack	Boric Acid Corrosion Program
<i>System No</i>	<i>3020</i>	Main Steam (MS)	
Carbon Steel	Containment Air, Borated Water Leakage	Loss of Material from Aggressive Chemical Attack	Boric Acid Corrosion Program
	Containment Air, Borated Water Leakage	Loss of Mechanical Closure Integrity from Loss of Material due to Aggressive Chemical Attack	Boric Acid Corrosion Program
<i>System No</i>	<i>3050</i>	Feedwater System (FW)	
Carbon Steel	Containment Air, Borated Water Leakage	Loss of Material from Aggressive Chemical Attack	Boric Acid Corrosion Program
	Containment Air, Borated Water Leakage	Loss of Mechanical Closure Integrity from Loss of Material due to Aggressive Chemical Attack	Boric Acid Corrosion Program
<i>System No</i>	<i>3065</i>	Auxiliary Feedwater (AFW)	
Carbon Steel	Containment Air, Borated Water Leakage	Loss of Material from Aggressive Chemical Attack	Boric Acid Corrosion Program
	Containment Air, Borated Water Leakage	Loss of Mechanical Closure Integrity from Loss of Material due to Aggressive Chemical Attack	Boric Acid Corrosion Program
<i>System No</i>	<i>4080</i>	Component/Closed Cooling Water System	
Carbon Steel	Indoor - Not Air Conditioned, Borated Water Leakage	Loss of Material from Aggressive Chemical Attack	Boric Acid Corrosion Program